

Message

From: Romano, Amy M. [Amy.Romano@wsp.com]
Sent: 7/6/2018 1:48:30 PM
To: ZIFF, SARA [ZIFF.SARA@EPA.GOV]; Santos, Carmen [Santos.Carmen@epa.gov]
CC: Rykaczewski, Dave A. [Dave.Rykaczewski@wsp.com]; Cepko, Russ P [russ.cepko@cbs.com]; Wilson, Patrick [Wilson.Patrick@epa.gov]
Subject: Re: Non detects in input data to ProUCL to calculate 95% UCL of the mean

Thank you, Sara, for looking into this.

Have a Nice Weekend.

-Amy

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From: ZIFF, SARA <ZIFF.SARA@EPA.GOV>
Sent: Thursday, July 5, 2018 2:13:15 PM
To: Santos, Carmen; Romano, Amy M.
Cc: Rykaczewski, Dave A.; Cepko, Russ P; Wilson, Patrick
Subject: RE: Non detects in input data to ProUCL to calculate 95% UCL of the mean

Hi Carmen, Amy, and all,

I did indeed have version 5.0 of ProUCL, and at least a few significant changes have apparently been made to the current version. My apologies for the confusion this caused! I've attached my outputs for the non-porous greater than 8 feet, and the NE quadrant walls, which now match Amy's outputs.

The new version of ProUCL is less conservative than the last version for the NE quadrant case (sample size of 8) and I don't know why, but I'm not a statistician and won't begin to guess!

Thanks for your patience and assistance to figure out what the discrepancies were about.

Thanks,
Sara

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Sara Ziff, P.E.
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From: Santos, Carmen
Sent: Friday, June 22, 2018 1:51 PM
To: Romano, Amy M. <Amy.Romano@wsp.com>
Cc: Rykaczewski, Dave A. <Dave.Rykaczewski@wsp.com>; Cepko, Russ P <Russ.Cepko@cbs.com>; Wilson, Patrick <Wilson.Patrick@epa.gov>; ZIFF, SARA <ZIFF.SARA@EPA.GOV>
Subject: RE: Non detects in input data to ProUCL to calculate 95% UCL of the mean

Hello Amy,

Thank you for your email following up on the ProUCL outputs from EPA Region 9 for concrete surfaces at former Westinghouse warehouse building. In my opinion the largest difference in the ProUCL calculations identified in your email (appended below) are related to the concrete/masonry walls (northeast quadrant). We can discuss at next biweekly call. Sara Ziff is out of the office the entire week of June 25. I will invite Dr. Patrick Wilson to the call.

I want to also clarify that Region 9 considers two key pieces of information when evaluating data for PCB cleanup decisions: spatial distribution of sample analytical results and 95% UCL of the mean of those results. The CBS cleanup approach needs to be based on data that has been evaluated using those methods.

Thank you for your courtesies.

Best,
Carmen D. Santos
PCB Coordinator



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"I am imagination. I can see what the eyes cannot see. I can hear what the ears cannot hear. I can feel what the heart cannot feel." Zarlenga

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**From:** Romano, Amy M. [<mailto:Amy.Romano@wsp.com>]  
**Sent:** Friday, June 22, 2018 12:46 PM  
**To:** Santos, Carmen <[Santos.Carmen@epa.gov](mailto:Santos.Carmen@epa.gov)>  
**Cc:** Rykaczewski, Dave A. <[Dave.Rykaczewski@wsp.com](mailto:Dave.Rykaczewski@wsp.com)>; Cepko, Russ P <[Russ.Cepko@cbs.com](mailto:Russ.Cepko@cbs.com)>  
**Subject:** RE: Non detects in input data to ProUCL to calculate 95% UCL of the mean

Hi, Carmen:

Thank you for getting us this information. I compared the ProUCL outputs from Sara Ziff's June 12, 2018, e-mail to you to our recommended exposure point concentrations (EPCs) that were provided to you in our March 2, 2018, Draft Cleanup Plan Approach. Provided below is that comparison.

I have highlighted in yellow the recommended EPCs that differ from what was recommended in USEPA Region 9's ProUCL outputs. Our recommended EPC differed from USEPA Region 9's ProUCL outputs for four decision

units. For the southeast quadrant walls and southwest loading dock decision units, we had assumed the maximum concentration as the EPC because the ProUCL UCL was greater than the maximum concentration for the dataset. We indicated that assumption in the Draft Cleanup Plan Approach.

For the other two decision units (non-porous surface greater than 8 feet high and northeast quadrant walls), I reran the datasets in ProUCL and got the same suggested UCL as before. I have attached the ProUCL outputs for those two datasets. Please share these outputs with Sara to see if she knows why there is a difference.

Thank you,  
Amy

| Exposure Unit                                         | Decision Unit              | Frequency of Detection (a) | Total PCBs       |         | USEPA Region 9's ProUCL Output |                   |
|-------------------------------------------------------|----------------------------|----------------------------|------------------|---------|--------------------------------|-------------------|
|                                                       |                            |                            | Maximum Detected | EPC     |                                |                   |
| Indoor Air ( $\mu\text{g}/\text{m}^3$ )               | Indoor Air                 | 5/6                        | 0.098            | 0.088   | 0.088                          |                   |
| Non-Porous Surface ( $\mu\text{g}/100 \text{ cm}^2$ ) | 8 feet High or Lower       | 5/29                       | 2.2              | 1.2     | 1.2                            |                   |
|                                                       | Greater than 8 feet High   | 40/105                     | 5.7              | 1.7     | 1.4                            | Not c             |
|                                                       | Floor grates and drains    | 6/9                        | 2.4              | 1.8     | 1.8                            |                   |
| Concrete Floors (mg/kg)                               | Northeast Quadrant         | 45/45                      | 130              | 35      | 35                             |                   |
|                                                       | Northwest Quadrant         | 34/34                      | 210              | 65      | 65                             |                   |
|                                                       | Southwest Quadrant         | 43/43                      | 31.9             | 4.9     | 4.9                            |                   |
|                                                       | Southeast Quadrant         | 38/38                      | 16               | 7.5     | 7.5                            |                   |
|                                                       | Interior Office/Mezzanine  | 11/11                      | 6.31             | 3.1     | 3.1                            |                   |
| Concrete/Masonry Building Walls (mg/kg)               | Northeast Quadrant         | 8/8                        | 51               | 35      | 82 (exceeds maximum)           | Not c             |
|                                                       | Northwest Quadrant         | 6/6                        | 1.7              | 1.5     | 1.5                            |                   |
|                                                       | Southwest Quadrant         | 5/5                        | 0.96             | 0.95    | 0.95                           |                   |
|                                                       | Southeast Quadrant         | 4/4                        | 2.2              | 2.2 (b) | 2.3                            | ProUCL assumption |
|                                                       | Breakroom/Interior Office  | 25/25                      | 3.8              | 1.9     | 1.9                            |                   |
| Transformer Pit (mg/kg)                               | Walls and Floor            | 10/10                      | 4,500            | 3,102   | 3102                           |                   |
| Control Room/Storage Room (mg/kg)                     | Walls                      | 10/10                      | 5.4              | 3.5     | 3.5                            |                   |
| Loading Docks (mg/kg)                                 | Northeast Loading Dock (c) | 4/4                        | 390              | 333     | 333                            |                   |
|                                                       | Southeast Loading Dock     | 5/5                        | 7.0              | 4.9     | 4.9                            |                   |
|                                                       | Southwest Loading Dock     | 4/4                        | 3.3              | 3.3 (b) | 3.4                            | ProUCL assumption |
| HVAC System (mg/kg)                                   | HVAC Dust                  | 2/2                        | 3.9              | 3.9 (b) | No ProUCL Output               |                   |

a/ Sample locations with duplicate samples were counted once.

b/ The EPC is reported as the maximum detected concentration.

c/ The floor of the northeast loading dock was replaced during PCB remediation activities in 2008. One sample was collected during 2015 cleaning activities to confirm that the concrete has not been recontaminated.

**Amy M. Romano**  
Senior Technical Manager  
WSP USA

**From:** Santos, Carmen [<mailto:Santos.Carmen@epa.gov>]

**Sent:** Tuesday, June 19, 2018 2:41 PM

**To:** Rykaczewski, Dave A. <[Dave.Rykaczewski@wsp.com](mailto:Dave.Rykaczewski@wsp.com)>; Cepko, Russ P <[Russ.Cepko@cbs.com](mailto:Russ.Cepko@cbs.com)>; Romano, Amy M. <[Amy.Romano@wsp.com](mailto:Amy.Romano@wsp.com)>

**Subject:** Non detects in input data to ProUCL to calculate 95% UCL of the mean

Hello David, Russ, and Amy,

I have further discussed the issue about non detects internally. We are going to follow the initial recommendation in the attached email that I had sent to David and Russ on May 23, 2018.

In addition, I have attached the results of our review of the ProUCL calculations submitted by David for each separate decision unit. The attached Excel sheets are our own recalculations for each decision unit of the 95% UCL. The email from my colleague, Sara Ziff, also has her notes and comments on her recalculation of the 95% UCLs as compared to WSP's calculations.

Please let me know if you have any questions about this email or the attachments. If you agree, with the information being shared in this email and the attached emails, then I believe we solved one of the non-detects issue which was keeping us from moving forward with preparation of the draft application.

Thank you for your courtesies.

Best,

*Carmen D. Santos*

PCB Coordinator



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